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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,647	04/26/2000	Dong-Gyu Kim	06/192/0732	9621

74
6/19/02
MCGUIRE WOODS LLP
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MCLEAN, VA 22102

EXAMINER

ABRAHAM FETSUM

ART UNIT	PAPER NUMBER
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282

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

Applicant(s)

09/558 647

KIM ET AL

Office Action Summary

Examiner

Art Unit

Fetsum Abraham

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION

- Extensions of time may be available under the provisions of 37 CFR 1.136(a); in no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 17 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-12, 29-49, 64-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 34 and 38-45 is/are allowed.
- 6) ☐ Claim(s) 29, 30, 35-37, 46, 64-68 and 71-74 is/are rejected.
- 7) ☒ Claim(s) 31-33, 47-49, 69 and 70 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (h).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statement(s) (PTO-1449) (Paper No(s) _____)
4. ☐ Interview Summary (PTO-413) (Paper No(s) _____)
5. ☐ Notice of Informal Patent Application (PTO-914)
6. ☐ Other _____

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Final rejection

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims **36,37** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim language where by said data wire was patterned "through only exposure" is incomplete since the expression omits what the material is exposed to.

2. Claims **68,74** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MEP, § 2172.01. The omitted structural cooperative relationships are: the relative position of said conductor pattern overlapping said storage electrode. It is not clear how both layers could be formed of the same layer and overlap each other at the same time.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4 Claim **46,71,72** are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al (6,022,753).

The patent discloses a LCD in the front page composed of a bottom gate TFT switch with a method comprising forming a gate wire or gate line (200) and a gate electrode (210) on an insulating layer (100), both elements connected to each other, forming a gate insulator (300) covering the gate electrode and the gate line, a semiconductor (a-si) pattern (400) on the gate insulator, source electrode (610) which is a branch of data line (600) formed on one portion of (510) on the substrate (see column 3, 30-40) and in contact with the source electrode (see claim 1), drain electrode (620), a passivation layer (700) covering the data line data wire and having a contact hole exposing the drain electrode (620), and a pixel electrode (800) connected to the drain electrode through the contact hole. All claimed elements are in the structure except the term photodefinable conductive material as the material type of gate and data elements. However, the patent clearly discloses metallic wires consistent with the definition of the term for one skilled in the art to conclude the similarity of the structures based on material types and method of fabrication.

As for claim 71, the second insulation layer (700) of the primary reference is formed on the data line (510,610) and contacting a portion of the exposed a-si layer (400) between the source and drain layers.

As for claim 72, the pixel electrode (ITO) layer (88) in the primary reference overlaps the data line of the structure.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **29,30,35-37,64-68,73-74**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al in view of Kurosaki et al.

The primary reference discloses all subject matter claimed including a matrix of pixels but the claimed color filter with contact hole on the gate insulation films and overlapping the data lines and the pixel electrodes over the color filters. However, Kurosaki et al show a structure in figure 3 whereby the color filter (7) covers the gate insulation (12) of the switching transistor and also overlapping the source electrode (16) which is normally attached to a data line while partially supporting the pixel electrode (8). Therefore, it would have been obvious to one skilled in the art to add color filters to the matrix of the primary reference similar to the structure of Kurosaki et al since the method allows color displays and at the same time passivates the transistor.

As for claim **30**, the claimed method is typical for color filters.

As for claim **35**, gate conductors are commonly made from highly doped or degenerated semiconductor materials which are photosensitive by nature.

As for claims **36,37**, so far as understood, gate conductors are commonly patterned by exposing the material to radiation.

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As for claim **65**, the pixel electrode (ITO) layer (88) in the primary reference overlaps the data line of the structure.

As for claim **66**, the data line of the primary reference is composed of a-si layer (400), ohmic contact layer (510) and gate electrode which is commonly metallic (610).

As for claims **67,73**, the storage line (900) of the primary reference and the gate lines (gate electrode (210) and gate wire (200) are formed of the same layer.

As for claims **68,74**, so far as understood, the primary reference has a conductor pattern (640) overlapping the storage line (900).

Claims 31-33,47-49,69,70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. **Claims 1-12, 34,38-45 have been allowed.**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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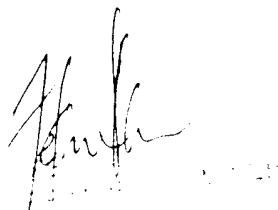
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Fetsum Abraham at telephone number (703) 305,3793, or by E-mail at *fetsum.abraham@uspto.gov*.

Any inquiry of a general nature or relating to the status of this application should be directed to the *SPE of AU*:2826 at (703)308-6601, or the *Group receptionist* at (703) 308-0956.

Fetsum Abraham

6/13/02

A handwritten signature in dark ink, appearing to read 'Fetsum Abraham', with a date '6/13/02' written below it.